16-1102

IN THE

United States Court of Appeals

FOR THE FEDERAL CIRCUIT

STOPINC AKTIENGESELLSCHAFT,

Plaintiff-Appellant,

—v.—

J.W. HICKS, INC.,

Defendant-Appellee.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
JUDGE PHILLIP P. SIMON
2:14-CV-238-PPS-JEM

BRIEF FOR PLAINTIFF-APPELLANT

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FORM 9. Certificate of Interest

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Stopinc Aktiengesellschaft **v.** J.W. Hicks, Inc.

Case No. 16-1102

CERTIFICATE OF INTEREST

Counsel for the (petitioner) (appellant) (respondent) (appellee) (amicus) (name of party) Stopinc Aktiengesellschaft certifies the following (use "None" if applicable; use extra sheets if necessary):

1. The full name of every party or amicus represented by me is:

Stopinc Aktiengesellschaft

2. The name of the real party in interest (Please only include any real party in interest NOT identified in Question 3. below) represented by me is:

Stopinc Aktiengesellschaft

3. All parent corporations and any publicly held companies that own 10 percent of the stock of the party or amicus curiae represented by me are listed below. (Please list each party or amicus curiae represented with the parent or publicly held company that owns 10 percent or more so they are distinguished separately.)

RHI Aktiengesellschaft of Vienna, Austria

4. ☐ The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

None

11/03/2015
Date

/Gerard F. Dunne/
Signature of counsel

Please Note: All questions must be answered

Gerard F. Dunne
Printed name of counsel

cc:

Reset Fields

CORPORATE DISCLOSURE STATEMENT

Appellant Stopinc Aktiengesellschaft is a shareholder corporation organized under the laws of Switzerland and has a parent corporation RHI Aktiengesellschaft of Vienna, Austria. RHI Aktiengesellschaft is a publicly owned corporation traded on the Wiener Borse AG, also known as the Vienna Stock Exchange.

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STATEMENT OF RELATED CASES

No other appeal in or from the same civil action or proceeding in the lower court or body was previously before this or any other appellate court.

JURISDICTIONAL STATEMENT

A. This appeal involves asserted patent infringement in violation of 35 U.S.C. § 271 *et seq*. The district court had jurisdiction of the claim below under 28 U.S.C. §§ 1331(a) and 1338(a.)

B. This Court of Appeals has jurisdiction under 28 U.S.C. § 1292(c)(2) inasmuch as this is an appeal from a final decision of the United States District Court for the Northern District of Indiana regarding patent infringement, entered September 18, 2015. A timely notice of Appeal was filed on October 14, 2015.

ISSUES PRESENTED FOR REVIEW

Appellant Stopinc Aktiengesellschaft respectfully submits the following issues are raised on this appeal:

1. Whether the District Court on summary judgment erred as a matter of law in precluding application of the doctrine of equivalents in an analysis of patent infringement by applying "file wrapper estoppel" when the file history of the patent indicates a narrowing amendment was not made for any reason relating to patentability.

2. Whether the District Court erred by not viewing the evidence presented in the prosecution history of the patent in a light most favorable to the Appellant opposing the motion, with all doubts resolved in favor of the Appellant.

STATEMENT OF THE CASE

Stopinc Aktiengesellschaft ("Stopinc AG") as the assignee of United States patent no. 6,422,435, referred to as the '435 patent, brought action to enforce its patent against Appellee J. W. Hicks, Inc. in view of asserted infringement of the '435 patent under the patent laws of the United States. 35 U.S.C. § 271 *et seq*. (Appendix, page A8-A20)[1]. Infringement had been asserted under the doctrine of equivalents only. *See*, SUPPLEMENTAL PRELIMINARY INFRINGEMENT CONTENTIONS (A106-112). The District Court entered the *Opinion and Order* on September 17, 2015 granting summary judgment in the favor of Appellee J. W. Hicks, Inc. ruling that file wrapper estoppel precluded the application of the doctrine of equivalents. (A27-46).

Final judgment was entered on October 14, 2015, closing the case. (A47). The *Opinion and Order* of September 17, 2015 is unpublished.

There has been no cross appeal.

[1]Abbreviated as A-appropriate page numbers

STATEMENT OF THE FACTS

I. United States Patent no. 6,422,435

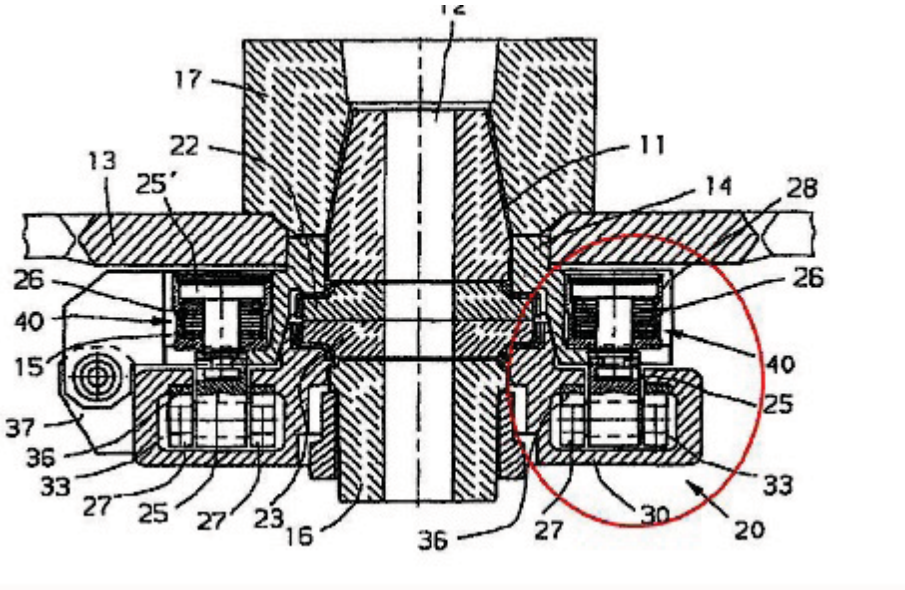
United States Patent no. 6,422,435, (the '435 patent) relates to an item used in steel factories and the like, and particularly a slide gate that serves as a valve to close and open the outlet from a container for molten metal. A slide gate is essentially a small door on the bottom of a container holding molten metal that either holds the metal in or lets the metal pour out, depending on circumstances, as desired. (A29).

In large metallurgy facilities and other facilities using molten metal, these giant containers typically move down an assembly line, dispensing the liquid metal into other vessels as they go. (A29). The slide gate is opened when the container is ready to pour the liquid metal, and closed to end the pouring of the liquid metal. *Id.*

One problem the '465 patent sought to remedy with its slide gate is that the known slide gates had to be mounted using a large framing system that was costly to produce. *Id.* In the '465 patent, however, the slide gate is simplified, making it smaller and allowing it to be directly mounted to a container for molten metal without using a frame. *Id.*

The District Court in its *Opinion and Order* attached a drawing figure from

the ‘465 patent, and added a circle around important features of one of the two components of the slide gate of the ‘435 patent essential to this appeal. (A30).



The ‘435 patent illustrates a sliding gate valve 20 having a refractory plate 23 mounted for longitudinal movement by slider unit 30 to be brought into and out of alignment with a refractory plate 22 secured to housing portion 14 of the sliding gate valve 20.

As stated in the ‘435 patent, a previous type of known slide gate includes a slider unit that accommodates a refractory plate (A54, col. 1 lines 7-17 of the ‘435 patent) that can be slid into position to seal off the opening of a container containing molten metal. The known slider unit has a carriage with rollers on both sides to guide the slider unit longitudinally into its required positions. *Id.* The

‘435 patent describes that the rollers of this known slide gate operate on guide tracks on a frame which is itself mounted on a housing; and the housing in turn is secured in a manner to be released to the outlet of the container for the molten metal. *Id.* *See*, paragraphs 4 and 5 of *Declaration of Willi Luchs in Opposition to Motion by Defendant for Summary Judgement*[2] (A285).

The ‘435 patent noted the known slide gates of the type having rollers that operate on tracks to move the slider unit require a frame vertically mounted to the housing for the molten material, and such frames are massive and expensive to manufacture. The object of the invention of the ‘435 patent is to provide a sliding gate valve of this type which may be manufactured more economically by virtue of the fact that the housing frame that had been required in the prior device could be eliminated. (A54, col. 1 lines 18-33 of the ‘435 patent) . *See*, paragraphs 6-8 of *Luchs Decl*. (A286-287).

The use of rollers riding on guide tracks is a well known feature of slide gates, and it is clear that the ‘435 patent stated to those reading the patent that the invention of the ‘435 patent was essentially to eliminate the costly frame that had been used in mounting slider components with rollers guided on a track; and the use of rollers and guide tracks was not a novel feature of the invention. As one

[2]*Luchs Decl*.

reading the ‘435 patent would well understand, the position of the guide elements (rollers in the ‘435 patent) and guide tracks was not a novel feature of the invention inasmuch as rollers were described as being used in the prior slide gate described in the patent at column 1, lines7-11, A54. The ability of a portion of a slide gate to slide relative another portion to open or close the outlet of a container for molten metal has always been a basic function of a slide gate; and the use of rollers on a guide track was a conventional feature of slide gates at the time of the invention disclosed in the ‘435 patent. (A54.) *See*, paragraphs 9 and 10 of *Luchs Decl.* (A287-288).

The District Court in its *Opinion and Order* summarized the operation of the patented slide gate noting the slide gate operates so that rollers (27) roll along a guide track (36), such that in the image from the ‘435 patent above, the slider unit (30) would roll on the guide track (36) to either open or close the valve by sliding the lower refractory plate 23 into a position aligning or mis-aligning its opening with the opening in the upper refractory plate 22, allowing liquid metal to flow out of the opening (12) or keeping it inside of the container. (A31).

Only Claim 1 of the ‘435 patent was involved in the proceedings before District Court. Claim 1 states:

A sliding gate valve to be mounted to a container for containing molten metal, comprising:

a housing portion to be secured to the container;

a slider unit mounted to said housing portion and having guide tracks;

a first refractory valve plate and a second refractory valve plate inserted between said housing portion and said slider unit and operable to open and close the sliding gate valve; and

a plurality of mounting components aligned perpendicular to said slider unit so as to mount said slider unit to said housing portion such that said slider unit is slidable with respect to said housing portion, each of said mounting components having:

a first end secured to said housing portion;

a spring element for pressing said first refractory valve plate and said second refractory valve plate against each other;

a second end opposite said first end; and

a guide element on said second end for riding on a respective one of said guide tracks of said slider unit, said mounting components being arranged such that two guide elements are positioned on each of two opposite sides of said refractory valve plates;

wherein said slider unit is operable to be moved so as to position said guide elements at a location whereat a height of said guide tracks is lower than a height of a remaining portion of said guide tracks so as to relax said spring elements to allow release of said slider unit from said housing portion. (A31, A55).

The claim recites "mounting components" aligned perpendicular to the slider unit so as to mount the slider unit to the housing portion to be secured to the molten container; and the slider unit is defined in the claim to have "guide tracks" and the mounting components include "guide elements" for riding on the guide tracks. The guide elements are the rollers (27).

As the District Court noted:

[F]or the purposes of J.W. Hicks' motion, the most important thing to understand is that the guide tracks are on the slider unit and the "guide elements" (*e.g.* rollers, wheels, or balls that slide on the tracks) are on the mounting components which are in turn connected to the housing unit. (A32)

II. Accused Device of Appellee J. W. Hicks, Inc.

The parties and District Court agree the for purposes of the summary judgment motion for non-infringement, the slide gate of Appellee J. W. Hicks, Inc. differs from that claimed in the '435 Patent with one important difference; the guide tracks on the accused slid gate of Appellee J. W. Hicks, Inc. are located on

the "mounting components" themselves which in turn are attached to the housing portion), and the guide elements (the rollers) are located on the slider unit positioned on the housing portion of the slide gate. (A36).

The positions of the guide elements (rollers) and guide tracks are reversed from that recited in claim 1 of the '435 patent. (A36).

III. Proceedings at The United States Patent and Trademark Office

Claim 1 as presented after a preliminary amendment for examination in the application that led to the '435 patent stated:

> 1. Sliding gate valve for a container containing molten metal including a housing portion, which is securable to the latter, and a slider unit, which is longitudinally movable with respect to it, in which respective refractory valve plates are insertable, which may be pressed against one another by means of spring elements and serve to open and close the sliding gate valve, characterized in that the slider unit is longitudinally movably mounted on the housing portion by a plurality of mounting means aligned perpendicular to it, these mounting means being secured *either to the housing portion or the slider unit and oppositely having guide means which slides on a respective guide track constructed on the slider unit or on the housing portion.* Emphasis added, reference numerals deleted. (A32)

As the italicized language indicates, claim 1 before examination recited the guide tracks and mounting means could be located *either* on "the housing portion or the slider unit." *Id.* For example, the guide tracks could be on the housing portion and the mounting means on the slider unit, or, vice versa, the guide tracks could be on the slider unit and the mounting means on the housing portion.

(A33).

The Examiner issued an Office Action (A219-225) rejecting the claims under 35 U.S.C.§ 112 stating with regard to claim 1:

> 1. In claim 1, line 2, there is no indication what component the term "the latter" is
> 2. In claim 1, line 3, there is no indication what component the slider unit is supposed to be longitudinally movable with respect to. Clarification is required.
> 3. In claim 1, line 4, the term "may be: makes the claim unclear as to wether or not the claim requires the use of the spring elements recited on line 5 following this term. Clarification is required. (A221-222).

The only rejection based on the prior art was summarized by the District Court as:

> Claims 1-14 are rejected under 35 U.S.C. § 102(b) as being anticipated by any of Holtermann et al, Kleebatt and Plattner et al. Each of Holtermann et al., Kleebatt and Plattner et al. teach a sliding gate valve for a molten metal container including the housing portion, a slider unit longitudinally moveable with respect to the housing portion, where the slider unit is connected to the housing portion by a plurality of mounting means secured to either of the housing portion or the slider unit and guide means on either of the slider unit or housing portion, thereby showing all aspects of the above claims . . . . (A33).

The Examiner at the United States Patent and Trademark Office (PTO) rejected the claims under 35 U.S.C. § 102(b) as being anticipated by any of Holtermann et al, Kleebatt and Plattner et al. patents. The Examiner stated each of Holtermann et al, Kleebatt and Plattner et al. teach a sliding gate valve for a

molten metal container including the housing portion, a slider unit longitudinally moveable with respect to the housing portion, where the slider unit is connected to the housing portion by a plurality of mounting means *secured to either of the housing portion or the slider unit* and *guide means on either of the slider unit or housing portion*, *thereby showing all aspects of the above claims*. (A223-224). Emphasis added.

The PTO Examiner, therefore, unequivocally stated the references he was applying to reject the claims disclosed guide means on either of the slider unit or housing portion "*thereby showing all aspects of the above claims*." Locating the guide means (the rollers in the '645 patent) on either the slider unit or the housing unit was stated by the Examiner to be known by the references he was applying. Certainly, whether the guide means were located on the housing or the slider was not material to the rejection of claim 1. (A 223-224).

The District Court stated:

> In other words, the Examiner found that the prior art already disclosed slide gates where the mounting means could be attached to either the housing portion or slider unit, and guide means that could be attached to whichever one the mounting means wasn't. (A33).

In responding to the PTO Examiner, the Applicant submitted new claims, claims 15 through 26. New claim 15 became patent claim 1 and new claim 29 became patent claim 15. (A 242 and 244.) *See*, *Luchs Decl*., paragraph 18,

Exhibit 1. (A 290, A 295-298).

Claim 15 of the application, now claim 1 of the '435 patent, recites the slider unit having "guide tracks" and the mounting components having a "guide element." (A242). The guide element is defined in claim 7 of the patent (claim 21 of the application, (A243)) as being "rollers," but claim 1 does not limit the guide elements to being rollers. In the '435 patent, the rollers are actually described as "a guide located at an end opposite the end connected to the housing portion 14, and the guide slides on a respective guide track formed on the slider unit 30." *See*, column 2, lines 27 - 31 of the '435 patent. (A54). Claim 29, now claim 15 of the '435, patent defines the alternate arrangement of the guide tracks being on the hosing unit and the guide elements on the mounting components. *See*, *Luchs Decl*., paragraphs 18 and 19, Exhibit 1. (A 290, A 295-298).

In the REMARKS, it was stated to the PTO Examiner:

> Although the new independent claims generally correspond to original claim 1, the new independent claims have been drafted to clarify the scope of the original claims and, more specifically, to clarify the arrangement of the mounting components and the slider unit.
>
> Both independent claim 15 and independent claim 20 (*sic* 29) are directed to sliding gate valves to be mounted to a container for containing molten metal. The sliding gate valves comprise a plurality of mounting components aligned perpendicular to a slider unit so as to mount the slider unit to a housing portion so that the slider unit is slidable with respect to

> the housing portion. Each of the mounting components has a first end secured to *either the housing portion or the slider unit*, a spring element for pressing the refractory valve plates against each other, and a guide element on the second end opposite the first end for riding on a guide *track located on either the sliding unit or the housing portion*. The mounting components are arranged so that two guide elements are positioned on each of two opposite sides of the refractory valve plates. The slider unit is operable to be moved so as to position the guide elements at a location whereat a height of the guide tracks is lower than a height of a remaining portion of the guide tracks so as to relax the spring elements and allow the release of the slider unit from the housing portion.
>
> As explained in the specification, the arrangement of the sliding gate valve of the present invention eliminates the need for a large and cumbersome frame, which increases the size, cost, and complexity of the prior art sliding gate valves. In addition, the arrangement of the mounting components with respect to the refractory valve plates and the spring element of each mounting component allows the valve plate to be held closely together during operation so as to prevent any leakage of molten metal material. (A248, 249). *See*, Luchs Decl., paragraph 20, Exhibit 1. (A 291, A 295-298).

Applicant in the REMARKS to the Examiner specifically stated its claims were to the two alternate arrangements that are the basis of the equivalents analysis, i.e. each of the mounting components has a first end secured to *either the housing portion or the slider unit*, a spring element for pressing the refractory valve plates against each other, and a guide element on the second end opposite the first end for riding on a guide *track located on either the sliding unit or the housing portion*. Applicant gave notice to the public that it considered its

invention to be the arrangement of the mounting components and the slider unit in any manner to eliminate the need for a large and cumbersome frame, which increases the size, cost, and complexity of the prior art sliding gate valves.

The Applicant specifically noted to anyone reading the remarks made to the PTO that it was immaterial whether the guide tracks or guide elements were on the slider unit or the housing portion. (A 249). *See*, *Luchs Decl.*, paragraph 21, Exhibit 1. (A 291-292, A 295-298).

In discussing the Holtermann reference applied by the Examiner, it was stated in the REMARKS submitted to the Examiner:

> The Holtermann reference discloses a slide closure for melting pots, and includes refractory valves plates 18, 35. However, the Holtermann reference does not disclose or suggest mounting components each having a spring element and a guide element, and being arranged as recited in independent claims 15 and 29. Therefore, it is respectfully submitted that the Holtermann reference does not anticipate or even suggest the sliding gate valve as recited in independent claims 15 and 29. (A 249). See, *Luchs Decl*., paragraph 22, Exhibit 1. (A 291, A 295-298).

Applicant did not rely on a specific location for the guide tracks and guide elements to distinguish over the Holtermann patent; and in fact referred to the alternate arrangements of claims 15 and 29. (A 249). See, *Luchs Decl*., paragraphs 22, 23, Exhibit 1. (A 292, A 295-298).

In discussing the Kleeblatt reference applied by the Examiner, it was stated

in the REMARKS submitted to the Examiner:

> However, the Kleeblatt reference does not disclose or suggest mounting components for mounting a slider unit to a housing portion, in which each of the mounting components has a spring element and a guide element, and in which the mounting components are arranged as recited in independent claims 15 and 29. Therefore, it is respectfully submitted that the Kleeblatt reference does not anticipate or even suggest the sliding gate valve as recited in independent claims 15 and 29. (A 249, 250). (A 292, A 295-298).

Applicant did not rely on a specific location for the guide tracks and guide elements to distinguish over the Kleeblatt patent; and in fact referred to the alternate arrangements of claims 15 and 29. (A 249,250). See, *Luchs Decl.,* paragraphs 24, 25, Exhibit 1. (A 291-292, A 295-298).

In discussing the Plattner reference applied by the Examiner, it was stated in the REMARKS submitted to the Examiner:

> However, the Plattner reference does not disclose or suggest mounting components arranged as recited in independent claims 15 and 29. Therefore, it is submitted that the Plattner reference does anticipate or even suggest the sliding gate valve as recited in independent claims 15 and 29. (A 250). *See*, Luchs Decl., paragraph 26, Exhibit 1. (A 293, A 295-298).

Applicant did not rely on a specific location for the guide tracks and guide elements to distinguish over the Plattner patent; and in fact referred to the alternate arrangements of claims 15 and 29. (A 250). See, *Luchs Decl.*, paragraphs 26, 27, Exhibit 1. (A 293, A 295-298).

The District Court did adopt such discussions of the prior art in the REMARKS submitted to the Examiner, and stated:

> Stopinc also distinguished each prior art reference with the following explanations:
>
> - "However, the Holtermann reference does not disclose or suggest mounting components each having a spring element and a guide element, and being arranged as recited in independent claims 15 and 29."
>
> - "However, the Kleeblatt reference does not disclose or suggest mounting components for mounting a slider unit to a housing portion, in which each of the mounting components has a spring element and a guide element, and in which the mounting components are arranged as recited in Independent claims 15 and 29."
>
> - "However, the Plattner reference does not disclose or suggest mounting components arranged as recited in independent claims 15 and 29."
>
> - "As discussed above, the Holtermann reference, the Kleebatt reference, and the Plattner reference do not disclose or suggest a plurality of mounting components arranged as recited in claims 15-40. Therefore, one of skill in the art would not be motivated to modify or combine the references in a manner that would result in claims 15-40. Accordingly, it is respectfully submitted that new independent claims 15 and 29, and the claims that depend from therefrom [*sic*], are clearly patentable over the prior art of record." References to record below omitted. (A34, 35).

From the record at the PTO, the Applicant did not assert the claims were patentable because of any specific arrangements of the guide tracks or the guide

elements of the claims. Applicant stated it was the arrangement of the mounting components to the slider unit that was important, that is, the direct connection without the cumbersome frame; not where the guide elements or guide tracks were connected. Applicant clearly stated either arrangement for the guide elements or guide tracks was within the scope of the invention.

Nor does the PTO record establish any specific location of the guide tracks or guide elements were necessary to obtain allowance of any claim of the '435 patent in view of the rejections made by the PTO Examiner. The PTO record establishes the Applicant stated the specific arrangements of the guide elements and guide tracks were not made to define over any prior references noted by the Examiner, or to otherwise render the claims patentable in view of rejections made by the PTO. Any definition in the claims regarding the arrangements of the guide elements and guide tracks were not made to secure allowance of the application, inasmuch as the Examiner actually stated the references showed the alternate arrangements. (A33).

The '435 patent was based on an international application PCT No. PCT/CH99/00295 (A50) and thus the application claims as filed initially were drafted in European form. As stated by the Applicant, new claims were presented to clarify the arrangements crucial to the invention of the '435 patent; that is, the

housing portion is secured directly to the container for the molten metal and the slider unit is mounted directly to the housing. Whether the housing has a guide track or a guide element, or the slider unit has a guide track or a guide element is immaterial to the patentability of the invention; as stated by the PTO Examiner in his initial rejection of the claims, and the Applicant in his REMARKS. (A248, 249, *see*, Luchs Decl., ¶ 28. A 293).

SUMMARY OF THE ARGUMENT

The District Court made findings on summary judgment that were clearly in error to determine Stopinc AG narrowed its patent claims to distinguish over the prior art applied by the PTO Examiner, and thereby the District Court estopped Stopinc AG from asserting infringement of its '435 patent under the doctrine of equivalents. However, the record at the PTO establishes the claims were not narrowed for any reason relating to patentability; and thus estoppel should not have been applied. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 344 F.3d 1359, 1367 (Fed. Cir. 2003).

The court below entered summary judgment of non-infringement against Stopinc AG, but not only failed to view the evidence in a light most favorable to the party opposing the motion, with doubts resolved in favor of the opponent, *See*, *Transmatic, Inc. v. Gulton Indus., Inc.*, 53 F.3d 1270, 1274 (Fed. Cir. 1995); but actually made erroneous findings contrary to the record at the PTO.

The grant of summary judgment for non-infringement was, therefore, in error.

ARGUMENT

I. Standard of Review

The standard for review is *de novo*.

The law of the regional circuit is applied when reviewing a district court's entry of summary judgment. *Teva Pharm. Indus. v. Astrazeneca Pharms. LP*, 661 F.3d 1378, 1381 (Fed. Cir. 2011). This appeal is from a decision from the United States District Court for the Northern District of Indiana. The Seventh Circuit reviews the grant or denial of summary judgment without deference. *Omnicare, Inc. v. UnitedHealth Grp., Inc.*, 629 F.3d 697, 723 (7th Cir. 2011).

II. Application of Prosecution History Estoppel to Foreclose the Doctrine of Equivalents

Based on the assumptions from *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.,* 520 U. S. 17, 117 S. Ct. 1040, 137 L. Ed.2d 146 (1997) and *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 533 U. S. 915, 121 S. Ct. 2519, 150 L. Ed. 2d 692 (2001), the first question in a prosecution history estoppel inquiry is whether an amendment filed in the Patent and Trademark Office ("PTO") has narrowed the literal scope of a claim. *Pioneer Magnetics, Inc. v. Micro Linear Corp.,* 330 F.3d 1352, 1356 (Fed. Cir. 2003). If the amendment was not narrowing, then prosecution history estoppel does not apply. But if the accused infringer establishes that the amendment was narrowing, then the second

question is whether the reason for that amendment was a substantial one relating to patentability. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 344 F.3d 1359, 1367 (Fed. Cir. 2003).

It is only when a narrowing amendment is adopted for a substantial reason related to patentability that the amendment gives rise to a presumption of surrender for all equivalents that reside in the territory between the original claim and the amended claim. *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1291 (Fed. Cir. 2010). The patentee must show that the reason for the amendment was not one relating to patentability in order to rebut that presumption. *Warner-Jenkinson,* 520 U.S. at 33, 117 S.Ct. 1040.

Most importantly, however, "[i]f the patentee successfully establishes that the amendment was not for a reason of patentability, then prosecution history estoppel does not apply." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 344 F.3d at 1367.

The court below made several findings that are not supported by the prosecution history of the '435 patent at the PTO; and these erroneous findings were the basic of the application of file wrapper estoppel.

The equivalents at issue involve whether the guide elements (rollers) or the tracks for the rollers were to be mounted on the housing means or slide unit, or

vice versa. It is respectfully submitted that specifying one location or the other in the claims was not a matter related to any issue of patentability; and the contrary holding by the court below was clear error. The application of prosecution history estoppel was thus in error.

Claim 1 as presented to the Examiner stated "these mounting means being secured *either to the housing portion or the slider unit* and oppositely having guide means which slides on a respective *guide track constructed on the slider unit or on the housing portion*. Claim 1 thus claimed either of the equivalents at issue.

The prosecution history is very clear that the examiner when he applied prior art to reject the claims under 35 U.S.C. § 102 stated the applied references teach a sliding gate valve for a molten metal container including the housing portion, a slider unit longitudinally moveable with respect to the housing portion, where the slider unit is connected to the housing portion by a plurality of mounting means *secured to either of the housing portion or the slider unit* and *guide means on either of the slider unit or housing portion*, *thereby showing all aspects of the above claims*. (A223-224). The Examiner stated the references disclosed either of the alternate arrangements. The court below acknowledge this by stating:

> ... the Examiner found that the prior art already disclosed slide gates where the mounting means could be attached to either the housing portion or slider unit, and guide means that could be attached to whichever one the mounting means wasn't. (A33).

The prosecution record is clear the respective equivalents were disclosed in the prior references applied by the Examiner. Neither one of the respective equivalents was a patentable feature of the invention of the '435 patent.

And the prosecution history is just as clear that the Applicant acknowledged the references applied by the Examiner did disclose either arrangement of the equivalents here involved. The prosecution history is clear Claim 15 which became Claim 1 of the patent was not narrowed for any reason relating to patentability. Estoppel should not have been applied. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 344 F.3d at 1367.

Applicant actually gave notice in the prosecution history that the invention included the alternate locations for the guide elements (rollers) and the corresponding guide tracks for the rollers. The alternate relationship was recited respectively in the two independent claims, although the two independent claims differed in other respects so that Claim 15 of the application (Claim 1 of the '435 patent) was considered below. Applicant stated in the REMARKS submitted with the new claims:

> Each of the mounting components has a first end secured

> to *either the housing portion or the slider unit*, a spring element for pressing the refractory valve plates against each other, and a guide element on the second end opposite the first end for riding on a guide *track located on either the sliding unit or the housing portion*. ... .
>
> As explained in the specification, the arrangement of the sliding gate valve of the present invention eliminates the need for a large and cumbersome frame, which increases the size, cost, and complexity of the prior art sliding gate valves. ... (A248, 249). See, *Luchs Decl.*, paragraph 20, Exhibit 1. (A 291, A 295-298).

Applicant provided a reason why the claims as newly presented were patentable, and stated the claims were patentable because the sliding unit and the housing had the direct coupling by way of guide elements (the rollers) and guide tracks for the rollers, as located on either component, in a manner to eliminate the need for a large and cumbersome frame. Applicant clarified the arrangement of the mounting components and the slider unit in an manner to highlight the direct connection without the need for the cumbersome frame; and the location of the guide elements (rollers) or guide tracks was not the basis for patentability; as shown clearly by the prosecution history of the '435 patent.

In determining whether there has been a clear and unmistakable surrender of subject matter, the prosecution history must be examined as a whole. *See Pharmacia & Upjohn Co. v. Mylan Pharms., Inc.*, 170 F.3d 1373, 1376 (Fed. Cir. 1999). An objective standard is applied when looking at the prosecution history,

the proper inquiry being "whether a competitor would reasonably believe that the applicant had surrendered the relevant subject matter." *Cybor, Corp. v FAS Technologies, Inc.* 138 F.3d 1448, 1460 (Fed. Cir. 1998).

In the prosecution history, it was clearly stated the Applicant considered the invention to include either of the alternate arrangements for the guide elements and guide tracks. The unfortunate language of "guide elements" and guide tracks" in Claim 1 instead of reciting "guide elements" and "corresponding guide elements" does not detract from the clear statements that the invention included the alternate arrangements.

Only the prosecution history may be considered in analyzing whether a claim was narrowed for a substantial reason relating to patentability, *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 234 F.3d 558, 586 & n.6 (Fed. Cir. 2000) (*en banc*) and *see also Pioneer Magnetics,* 330 F.3d at 1356.

The court below erred in its statement "Stopinc narrowed original application Claim 1 to avoid prior art that contained the alleged equivalent." (A41). The prosecution history of the '435 patent does not support this statement.

As noted in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.,* 520 U. S. At 33, "[w]here the reason for the change was not related to avoiding the prior art, the change may introduce a new element, but it does not necessarily preclude

infringement by equivalents of that element." Similarly, the narrowing of claim 1 does not necessarily preclude infringement by the doctrine of equivalents.

The court below relied upon the statement made to the PTO that "... the new independent claims have been drafted to clarify the scope of the original claims and, more specifically, to clarify the arrangement of the mounting components and the slider unit." (A248,249). The court below apparently took this statement to mean the claims as newly presented clarified the arrangement of the guide elements (rollers) and guide tracks to define patentably over the applied references.

Claim 1 of the '435 patent includes "a slider unit mounted to said housing portion" .... and "a plurality of mounting components aligned perpendicular to said slider unit so as to mount said slider unit to said housing portion such that said slider unit is slidable with respect to said housing portion..."

The arrangement of the mounting components and the slider unit is that the slider unit is mounted to the housing portion and the mounting components are aligned so as to mount the slider portion to the housing unit. This is precisely the arrangement stated in the specification to eliminate the need for the large and cumbersome frame used in the prior sliding gate valve described in column 1, lines 5-41 of the '435 patent. (A54).

Stopinc AG further stated to the PTO "[e]ach of the mounting components has a first end secured to *either the housing portion or the slider unit*, a spring element for pressing the refractory valve plates against each other, and a guide element on the second end opposite the first end for riding on a guide *track located on either the sliding unit or the housing portion*." The clarifying of the arrangements were specifically stated to include the alternative equivalents; not to exclude them.

The public reading the REMARKS accompanying the claims of the '435 patent that were allowed certainly was placed on notice the patented invention included, not excluded, the guide elements (rollers) could be secured either the housing portion or the slider unit, or the guide track could be located on either the sliding unit or the housing portion. That is exactly the equivalents asserted for infringement of Claim 1.

CONCLUSION

The prosecution history of the '435 patent establishes that the narrowing amendments to the claim involved in the application of the doctrine of equivalents were not made to avoid prior references applied by the PTO, and certainly the evidence presented in the prosecution history of the patent had not been viewed below in a light most favorable to the party opposing the motion with doubts resolved in favor of the opponent. *See*, *Transmatic, Inc. v. Gulton Indus., Inc.*, 53 F.3d 1270, 1274 (Fed. Cir.1995.)

Had the prosecution history of the patent had been viewed properly, "file wrapper estoppel" could not have been applied to preclude application of the doctrine of equivalents.

The asserted infringement of the '435 patent should have been allowed to proceed to trial.

STATEMENT OF RELIEF SOUGHT

Appellant Stopinc AG requests that this court vacate the granting of the motion for summary judgement that prosecution history estoppel precludes the application of the doctrine of equivalents in asserting infringement of Claim 1 of th ‘435 patent.

New York, NY
Dated: December 21, 2015

Respectfully submitted,

/s/ Gerard F. Dunne

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ADDENDUM A

AO 450 (Rev. 01/09) Judgment in a Civil Action

UNITED STATES DISTRICT COURT

for the
Northern District of Indiana

STOPINC AKTIENGESELLSCHAFT
a corporation of Switzerland,

Plaintiff

v. **Civil Action No.** 2:14cv238

JW HICKS INC.,
a corporation of Indiana

Defendant

JUDGMENT IN A CIVIL ACTION

The court has ordered that (*check one):*

___ the plaintiff _____
recover from the defendant _____ the amount of _____
_____ dollars $_____, which includes prejudgment interest at the rate of _____% plus post-judgment interest at the rate of _____ % along with costs.

___ the plaintiff recover nothing, the action is dismissed on the merits, and the defendant _____ recover costs from the plaintiff _____.

X Other: Judgment is entered in favor of Defendant Jw Hicks Inc., and against Plaintiff Stopinc Aktiengesellschaft.

This action was (*check one):*

___ tried to a jury with Judge _____ presiding, and the jury has rendered a verdict.

___ tried by Judge _____ without a jury and the above decision was reached.

X decided by Judge Philip P. Simon on a Motion for Summary Judgment by Defendant.

DATE: September 18, 2015

ROBERT N. TRGOVICH, CLERK OF COURT

By s/ L. Higgins-Conrad
Signature of Clerk or Deputy Clerk

ADDENDUM B

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

STOPINC AKTIENGESELLSCHAFT,	)	
	)	
Plaintiff,	)	Cause No. 2:14-CV-238-PPS-JEM
	)	
v.	)	
	)	
J.W. HICKS, INC.,	)	
	)	
Defendant.	)	

OPINION AND ORDER

This is a patent infringement case dealing with equipment used in processing molten metal. The invention at issue is a slide gate on a container that holds molten metal. Basically, the slide gate is the part of a large metal container that opens and dispenses the liquid metal inside into whatever other containers are being used. Plaintiff Stopinc Aktiengesellschaft is a Swiss company that, among other things, manufactures these slide gates. Stopinc patented this invention in 2002 and now claims that Defendant J.W. Hicks, Inc. is infringing by producing essentially the same type of slide gate. I say "essentially" because the parties agree that there are differences between the Stopinc and J.W. Hicks slide gates. The fact that there are differences between the products is not, however, in and of itself necessarily problematic because Stopinc's legal theory is under the doctrine of equivalents. So Stopinc can sue J.W. Hicks for infringement even if the products are not 100% the same. J.W. Hicks contends

that the doctrine of equivalents is unavailable to Stopinc. To this effect, J.W. Hicks has filed a Motion for Summary Judgment (DE 35) claiming that during the prosecution of Stopinc's patent, it affirmatively represented to the Patent Office that its invention did not include the feature that allegedly makes J.W. Hicks' slide gate similar to Stopinc's, so the doctrine of equivalents can't apply. That's the primary motion before me today. Since the doctrine of equivalents is the only theory of infringement that Stopinc relies upon, this motion is potentially case dispositive.

This matter has been fully briefed, including some supplemental filings received from the parties (DE's 51-52) and I have also heard oral argument (DE 50). After reviewing all of those materials, and for the reasons discussed below, I agree with J.W. Hicks that the doctrine of equivalents isn't available to Stopinc. I will therefore **GRANT** the motion (DE 35) regarding its request for summary judgment. I will, however, **DENY** J.W. Hicks's request for attorneys fees. Also before me is J.W. Hicks' Motion to Strike (DE 39) regarding a declaration Stopinc attached to its response brief. I will **DENY** this motion, as well.

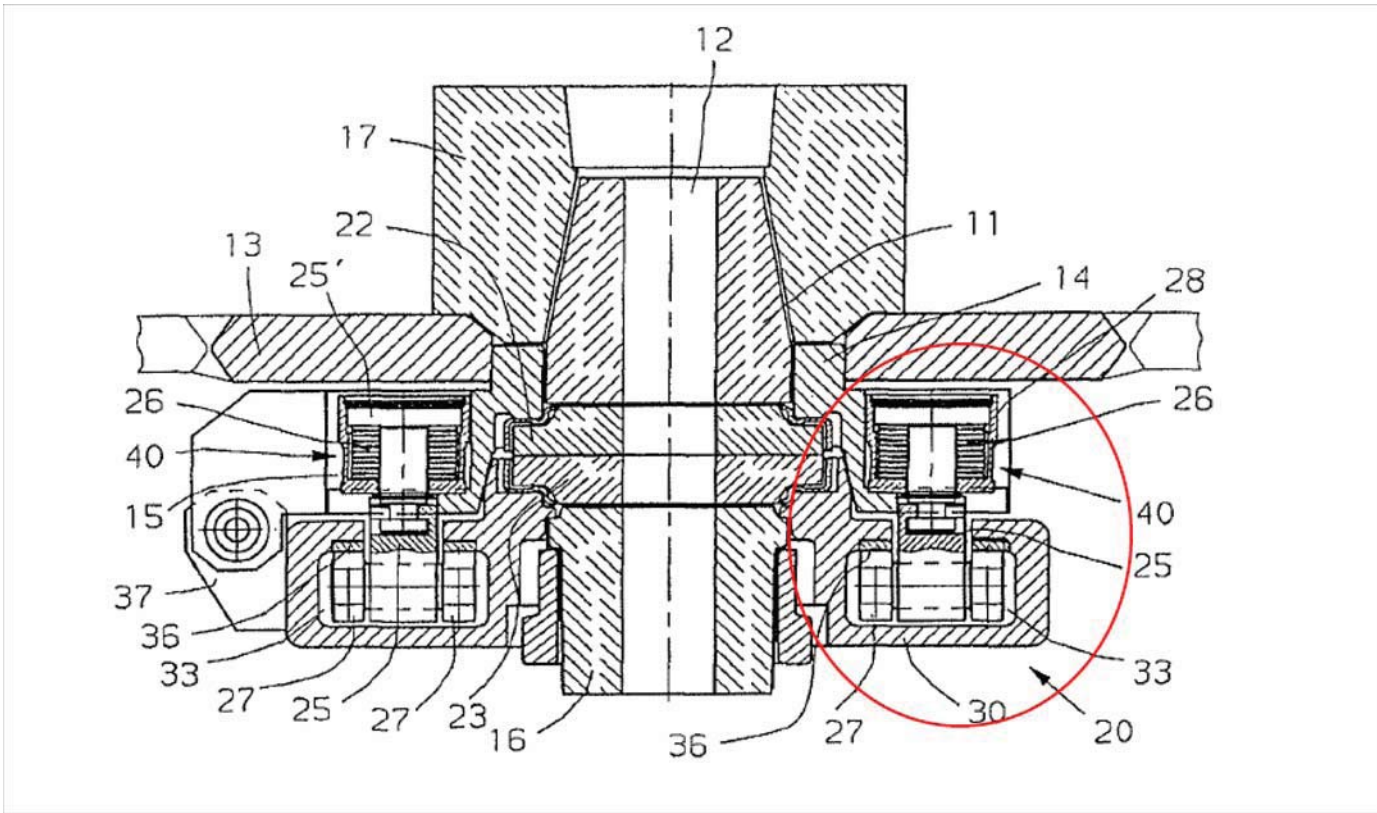
Background

The Invention

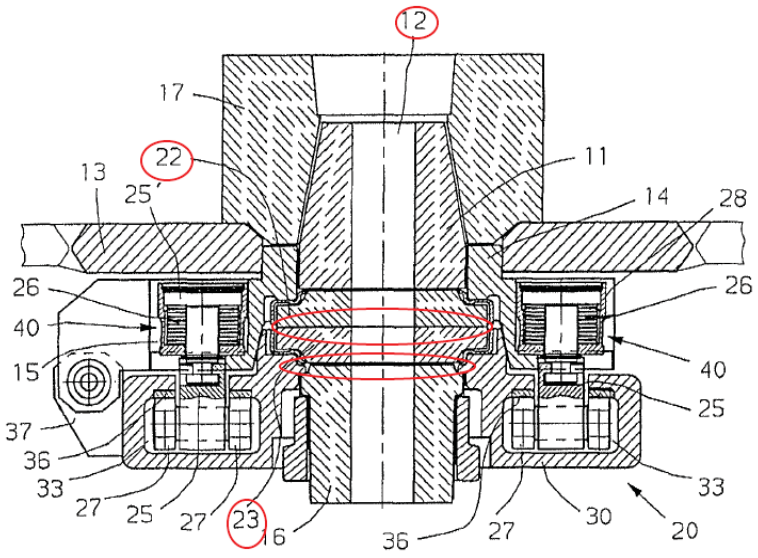
As I mentioned above, this case deals with slide gates on molten metal containers. Readers looking for a more in-depth discussion of the technology are directed to the parties' briefing (DE's 35-38, 51-52) and Stopinc's patent (United States Patent No. 6,422,435). But I'll briefly go through the ins and outs of what I understand

this invention entails.

A slide gate is essentially a small door on the bottom of a container (also commonly referred to as a "ladle") holding molten metal that either holds the metal in or lets the metal pour out, depending on circumstances. *(See generally* Wikipedia, "Ladle (foundry)," https://en.wikipedia.org/wiki/Ladle_(foundry) (last visited September 16, 2015); U.S. Patent No. 6,422,435 Background.) In large metallurgy facilities and other facilities using molten metal, these giant containers typically move down an assembly line, dispensing the liquid metal into other vessels as they go. *Id.* The slide gate opens when the container is ready to pour the liquid metal, closes once it's finished and then the ladle moves on to the next vessel. *Id*. One problem Stopinc sought to remedy with its slide gate is that these gates used to have to be mounted onto the ladle using a large framing system that was costly to produce. (*See* U.S. Patent No. 6,422,435, 1:24-27.) Stopinc, however, simplified its slide gate, making it smaller and allowing it to be directly mounted to the ladle without using a frame. (*Id*. at 1:30-55.) It patented this invention in U.S. Patent No. 6,422,435 (the '435 Patent) on July 23, 2002. Below is a drawing of the invention from the face of the '435 Patent, and I've added a circle around one of the two slide gates.



In this image, molten metal flows out of the opening labeled No. 12. The opening is closed off at various points by the refractory plates, labeled Nos. 22 and 23.



The slide gate operates so that rollers (No. 27) roll along a track (No. 36), such that in this image, the slider unit (No. 30) would roll on a track towards you or away from you. This action either opens or closes the refractory valve plates, allowing liquid metal to flow out of the opening (No. 12) or keeping it inside of the container, depending on whether the plate is opened or closed.

Only Claim 1 of the '435 is asserted in this litigation. It states:

> A sliding gate valve to be mounted to a container for containing molten metal, comprising:
>
> a housing portion to be secured to the container;
> a slider unit mounted to said housing portion and having guide tracks;
> a first refractory valve plate and a second refractory valve plate inserted between said housing portion and said slider unit and operable to open and close the sliding gate valve; and
> a plurality of mounting components aligned perpendicular to said slider unit so as to mount said slider unit to said housing portion such that said slider unit is slidable with respect to said housing portion, each of said mounting components having:
> a first end secured to said housing portion;
> a spring element for pressing said first refractory valve plate and said second refractory valve plate against each other;
> a second end opposite said first end; and
> a guide element on said second end for riding on a respective one of said guide tracks of said slider unit, said mounting components being arranged such that two guide elements are positioned on each of two opposite sides of said refractory valve plates;
> wherein said slider unit is operable to be moved so as to position said guide elements at a location whereat a height of said guide tracks is lower than a height of a remaining portion of said guide tracks so as to relax said spring elements to allow release of said slider unit from said housing portion.

('435 Patent, Claim 1.)

That's a lot to unpack, but for the purposes of J.W. Hicks' motion, the most important thing to understand is that the guide tracks are on the slider unit and the "guide elements" (*e.g.* rollers, wheels, or balls that slide on the tracks) are on the mounting components which are in turn connected to the housing unit.

The Prosecution of the '435 Patent

The prosecution of the '435 Patent was fairly straight-forward. Stopinc submitted fourteen claims, which were rejected by the PTO Examiner based primarily on three prior art references. (DE 36-8, '435 Pros. at 00110-11.) Stopinc filed an amendment cancelling the fourteen claims and submitting new claims 15-40. (*Id*. at 00128.) The Examiner allowed those claims and the patent issued. J.W. Hicks claims that during this process, Stopinc sacrificed the claim elements that make its product similar to Stopinc's.

When Stopinc filed its original patent application in July 1999, Claim 1 read:

> Sliding gate valve for a container containing molten metal including a housing portion, which is securable to the latter, and a slider unit, which is longitudinally movable with respect to it, in which respective refractory valve plates are insertable, which may be pressed against one another by means of spring elements and serve to open and close the sliding gate valve, characterized in that the slider unit is longitudinally movably mounted on the housing portion by *a plurality of mounting means aligned perpendicular to it, these mounting means being secured either to the housing portion or the slider unit and oppositely having guide means which slides on a respective guide track constructed on the slider unit or on the housing portion.*

(DE 36-8 '435 Pros. at 00023 (emphasis added).)

As the italicized language indicates, in the original application, the guide tracks and mounting means could be located *either* on "the housing portion or the slider unit." *Id.* For example, the guide tracks could be on the housing portion and the mounting means on the slider unit, or, vice versa, the guide tracks could be on the slider unit and the mounting means on the housing portion.

The Examiner rejected all fourteen claims. (DE 36-8 '435 Pros. at 00107-111.) Although the Examiner rejected the claims on multiple grounds, most relevant to the issue I've been asked to resolve is this statement:

> Claims 1-14 are rejected under 35 U.S.C. § 102(b) as being anticipated by any of Holtermann et al, Kleebatt and Plattner et al. Each of Holtermann et al., Kleebatt and Plattner et al. teach a sliding gate valve for a molten metal container including the housing portion, a slider unit longitudinally moveable with respect to the housing portion, where the slider unit is connected to the housing portion by a plurality of mounting means secured to either of the housing portion or the slider unit and guide means on either of the slider unit or housing portion, thereby showing all aspects of the above claims . . . .

(*Id*.) In other words, the Examiner found that the prior art already disclosed slide gates where the mounting means could be attached to either the housing portion or slider unit, and guide means that could be attached to whichever one the mounting means wasn't.

Stopinc responded by cancelling all fourteen claims and submitting new

claims 15-40. In so doing, Stopinc stated:

> The Examiner rejected claims 1-14 as being anticipated by any one of the Holtermann reference (USP 5,421,563), the Kleebatt reference (USP 5,141,139), and the Plattner reference (USP 5,836,485). However, as indicated above, the original claims have been cancelled and replaced with new claims 15-40, including new independent claims 15 and 29. Although the new independent claims generally correspond to original independent claim 1, *the new independent claims have been drafted to clarify the scope of the original claims and, more specifically, to clarify the arrangement of the mounting components and the slider unit.* Thus, for the reasons discussed below, it is respectfully submitted that *new claims 15-40 are clearly patentable over the prior art of record.*

(*Id*. at 00135-36 (emphasis added).)

Stopinc also distinguished each prior art reference with the following explanations:

- "However, the Holtermann reference does not disclose or suggest mounting components each having a spring element and a guide element, and being arranged as recited in independent claims 15 and 29." (*Id*. at 00136.)
- "However, the Kleeblatt reference does not disclose or suggest mounting components for mounting a slider unit to a housing portion, in which each of the mounting components has a spring element and a guide element, and in which the mounting components are arranged as recited in Independent claims 15 and 29." (*Id*. at 00136-37.)
- "However, the Plattner reference does not disclose or suggest mounting

components arranged as recited in independent claims 15 and 29." (*Id*. at 00137.)

- "As discussed above, the Holtermann reference, the Kleebatt reference, and the Plattner reference do not disclose or suggest a plurality of mounting components arranged as recited in claims 15-40. Therefore, one of skill in the art would not be motivated to modify or combine the references in a manner that would result in claims 15-40. Accordingly, it is respectfully submitted that new independent claims 15 and 29, and the claims that depend from therefrom [*sic*], are clearly patentable over the prior art of record." (*Id*.)

In essence, the arrangement of the mounting components and the slider unit (including the guide tracks) distinguished the amended claims from the prior art. And in new Claim 15 (which eventually issued as Claim 1), the mounting components included the "guide elements" (*e.g.* rollers, balls, wheels, etc.) and were attached to the housing portion, and the guide tracks were specifically located on the slider unit. This is in contrast to original application Claim 1 which stated that the mounting means (which contain the guide elements) could be attached to either the housing portion or the slider unit, and then the guide tracks would be located on whichever component didn't have the mounting means.

In response to Stopinc's amendment, the Examiner allowed the new

claims 15-40 (DE 36-8 '435 Pros. at 00143), and those claims now appear as claims 1-26 of the '435 Patent.

This Litigation

Stopinc filed this patent infringement suit in July 2014. The only independent claim asserted is Claim 1, so that is the only claim I need to concern myself with. *See e.g. Wahpeton Canvas Co., Inc. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n. 9 (Fed.Cir.1989). The parties agree that Stopinc's only theory of infringement is on the basis of the doctrine of equivalents and *not* any literal infringement. (*See* DE 36-6 at 8.) That's because J.W. Hicks' slide gate differs from the Stopinc slide gate in at least one key way: in J.W. Hicks' slide gate, the guide tracks are located on the mounting components (which in turn is attached to the housing portion), and the guide elements (here, rollers) are located on the slider unit. (DE 36 at 7-8; DE 36-6 at 8.) In other words, the guide tracks and guide elements have the opposite orientation of Claim 1 of Stopinc's patent.

J.W. Hicks argues that this orientation is of particular significance. This is because when Stopinc amended its original application Claim 1, and required one orientation of the mounting components instead of allowing the mounting components (containing the guide elements) to be attached to *either* the housing unit *or* the slider unit, Stopinc sacrificed the other orientation. And since that "other" orientation is how J.W. Hicks' product is set up, the doctrine of prosecution history estoppel prevents Stopinc from reclaiming that "other"

orientation. In other words, J.W. Hicks argues that because Stopinc told the PTO that its slide gate was set up one way, it gave up the ability to sue someone whose slide gate is set up the other way. So the precise issue I'm asked to resolve is: did Stopinc give up its ability to assert an infringement claim under the doctrine of equivalents where the mounting components and guide tracks are located on the housing portion and the guide elements are located on the slider unit? Since Stopinc asserts infringement under only the doctrine of equivalents (*i.e.* it has asserted no claim of literal or direct infringement), the answer to that question is potentially case dispositive. So at bottom, if I find that Stopinc can proceed under the doctrine of equivalents, the case goes forward as usual. But if I find that the doctrine of equivalents is not available to Stopinc, then I must dismiss this matter since Stopinc would no longer have any theory of infringement. (*See e.g.* DE 36-6 at 8, Infringement Contentions, (Stopinc: "Claim 1, 7 and 11 are not literally infringed . . . . The known equivalence of reversal of parts supports infringement under the doctrine of equivalents.").

Discussion

Summary judgment is proper "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue of material fact and the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). A genuine dispute about a

material fact exists only if the evidence is such that a reasonable jury could return a verdict for the non-moving party. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323-24 (1986).

Generally speaking, a product infringes a patent only if it meets every element of the asserted claim(s) – in essence, only if it's the same as what is described in the claims. *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed.Cir.2007) (citing *Warner–Jenkinson Co., Inc. v. Hilton Davis Corp.*, 520 U.S. 17, 40 (1997)), *overruled on other grounds*, *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1306 (Fed.Cir.2012) (en banc). That's known as direct or literal infringement. A product that does not literally or directly infringe a claim, however, may still infringe under the doctrine of equivalents if each limitation of the claim is met in the accused product either literally or equivalently. *See Warner-Jenkinson Co.*, 520 U.S. at 40. So if the accused product is essentially the same as – but not identical to -- the patented product, it may still infringe.

But there are limits as to whether a plaintiff can claim infringement via the doctrine of equivalents. For example, and of particular relevance to this case, prosecution history estoppel prevents a patentee from recapturing through the doctrine of equivalents the subject matter that the applicant surrendered during prosecution. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 734 (2002). It presumptively applies when the applicant makes a narrowing claim

amendment related to patentability. *Id*. at 736-37. What all this adds up to is that a plaintiff can't tell the PTO that its product does *not* do or contain a certain thing in order to overcome some prior art, and then turn around and claim that a product that does or contains that very thing infringes the patent. To hold otherwise would allow the patentee to have his cake and eat it still.

A patentee bears the burden to rebut the presumptive application of prosecution history estoppel by establishing one of three exceptions by a preponderance of the evidence. *Festo,* 535 U.S. at 740-41; *Integrated Tech. Corp. v. Rudolph Tech., Inc.*, 734 F.3d 1352, 1356 (Fed. Cir. 2013). Whether a patentee has rebutted the presumption is a question of law, making it well-suited for summary judgment. *Chimie v. PPG Indus. Inc.*, 402 F.3d 1371, 1376 (Fed.Cir. 2005). The parties agree that only one of the three exceptions is at issue here: "the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question." *Festo,* 535 U.S. at 734; DE 37 at 16.[1] In other words, if the patentee narrowed its claim to get around some prior art for

[1] Because Stopinc claims that this case falls under this second exception to prosecution history estoppel, it appears to also admit that its amendment narrowed this claim, since the presumption applies to only a narrowing amendment. And in any event, I find that this amendment is narrowing because a claim allowing only one orientation of components is certainly more narrow than one that allows two separate orientations. *See Integrated Tech.*, 734 F.3d at 1357-58. Stopinc makes some arguments about how it didn't really sacrifice the other orientation because it kept the alternate orientation in a separate claim, which kind of sounds like it's arguing that it didn't narrow the claims, but that doesn't matter for evaluating Claim 1. All that matters is what is claimed or not claimed in Claim 1 – the only asserted claim – because "infringement and validity analysis must be performed on a claim-by-claim basis." *Amazon.com, Inc. v. Barnesandnoble.com*, 239 F.3d 1343, 1351 (Fed. Cir. 2001).

a purpose that wasn't really related to the equivalent it now claims is infringing, courts won't find that the patentee gave up that claim scope.

The parties also agree that claim construction is unnecessary to decide this issue. (*See* DE 36 at 1; DE 45 at 1) When the movant and nonmovant agree on the meaning of the relevant term, a court need not formally construe the claims to decide a motion for summary judgment of noninfringement. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed.Cir.1999) (the only claim terms a court need to construe are those "in controversy, and only to the extent necessary to resolve the controversy."). Therefore the timing of this motion is appropriate.

The tangential relation exception is "very narrow." *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 480 F.3d 1335, 1342 (Fed.Cir.2007). The key question is "whether the reason for the narrowing amendment was peripheral, or not directly relevant, to the alleged equivalent." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1369 (Fed.Cir.2003) (en banc). "[A]n amendment made to avoid prior art that contains the equivalent in question is not tangential." *Chimie*, 402 F.3d at 1383 (quoting *Festo*, 344 F.3d at 1369).

The tangential relation inquiry "focuses on the patentee's objectively apparent reason for the narrowing amendment," which "should be discernible from the prosecution history record." *Festo*, 344 F.3d at 1369 (internal citations omitted). And where the prosecution history record is ambiguous, the

presumption is not rebutted. *EMD Millipore Corp. v. Allpure Tech., Inc.*, 768 F3d 1196, 1204 (Fed. Cir. 2014) *citing Warner-Jenkinson*, 520 U.S. at 33. Here, Stopinc has not successfully rebutted the presumption that prosecution history estoppel applies. As is clear from the prosecution history discussed at length above, Stopinc narrowed original application Claim 1 to avoid prior art that contained the alleged equivalent.

Original application Claim 1 allowed two different arrangements for the mounting components/guide elements and the guide tracks – they could be attached to either the housing portion or the slider unit. The Examiner then rejected that claim because the prior art already disclosed "a slider unit longitudinally moveable with respect to the housing portion, where the slider unit is connected to the housing portion by a plurality of mounting means secured to either of the housing portion or the slider unit and guide means on either of the slider unit or housing portion, thereby showing all aspects of the above claims . . . ." (DE 36-8, '435 Pros. at 00107-00111.) In response, Stopinc amended its claim, requiring that the mounting components (containing the guide elements) be mounted to the housing portion, and that the guide tracks be located on the slider unit. (DE 36-8 at 00129; DE 36-1, '435 Patent Claim 1.) In so doing, Stopinc could not have been clearer in affirmatively stating that it amended its claim "to clarify the arrangement of the mounting components and the slider unit." (DE 36-8, '435 Pros. at 00135-00136.) And in distinguishing the

specific prior art cited by the Examiner, Stopinc repeatedly argued that the new claim was "clearly patentable over the prior art of record" because of the arrangement of the mounting components and guide elements. (*Id*. at 00136-37.)

That arrangement of the mounting components and guide elements is the exact equivalent in question. The patent requires that the guide elements be on the mounting components and the guide tracks be on the slider unit. The J.W. Hicks' product instead has the guide elements on the slider unit and the guide tracks on the mounting component, and Stopinc has deemed that an equivalent arrangement. Since "an amendment made to avoid prior art that contains the equivalent in question is not tangential" *(Chimie*, 402 F.3d at 1383 (quoting *Festo*, 344 F.3d at 1369)), Stopinc has failed to rebut the presumption that prosecutorial history estoppel applies.

Stopinc's express representations that the amendment to the arrangement of the mounting components and guide elements was made to overcome the prior art torpedoes its case. Nothing in *Insitutform Technologies v. CAT Contracting, Inc.* — one of only a handful of Federal Circuit cases finding an amendment to be merely tangential — mandates a different result. There, the court found significant that there was "no indication in the prosecution history of any relationship between the narrowing amendment and . . . the alleged equivalent in this case." 385 F.3d 1360, 1370 (Fed. Cir. 2004). And therein lies the rub – here, Stopinc expressly stated that the prior art did not disclose the

arrangement it had chosen for the mounting components and guide elements, along with the spring element. That admission is dispositive. *Lucent Technologies, Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1218 (Fed. Cir. 2008) ("The applicant argued that the claimed invention was distinguishable from the prior art based on the performance of both pitch calculation and pitch removal during each pulse-forming iterations. Thus, the purpose for the amendment is not unrelated to the alleged equivalent.") And even if Stopinc could point to some ambiguity or debate about what "arrangement" it was talking about, an ambiguous statement isn't enough to overcome the presumption. *EMD Millipore Corp.*, 768 F.3d at 1204.

Not so fast says Stopinc. Stopinc argues that its amendment *was* tangential to the equivalent because the real reason it amended its claims was to add a spring element to the mounting components. (DE 53, Hearing Transcript at 31:21-25.) Stopinc further claims that choosing one of the arrangements from its original "either/or" claim wasn't related to patentability because the Examiner had already said that *both* arrangements were found in the prior art. (DE 37 at 16.) In other words, choosing one orientation or the other wouldn't have been enough to overcome the prior art, so the real focus of the amendment was adding in the spring element, making anything relating to the mounting/guide components merely tangential.

Although this argument has some intuitive appeal, it has been flatly

rejected by authority from the Federal Circuit on very similar facts. In *Integrated Technology Corporation v. Rudolph Technologies*, the Federal Circuit rejected just this argument where the patentee amended its claim to add a limitation that was not necessary to overcome the prior art. 734 F.3d 1352 (Fed. Cir. 2013). There, the patentee added a two limitations to its amended claim – one that was necessary to overcome the prior art and one that wasn't. *Id*. at 1357. The Federal Circuit rejected the patentee's argument that because the second addition was not necessary to overcome the prior art, it was "merely tangential" and therefore the claim scope allegedly sacrificed could be asserted as an equivalent. *Id*. at 1358. Specifically, the court found that although the patentee may not have *needed* to have surrendered the equivalent at issue in order to overcome the prior art, "[t]he dispositive fact is that [it] chose to." *Id*. So, too, did Stopinc. Although Stopinc did not necessarily need to choose an orientation from its original "either/or" claim, it chose to do so at the same time it added the spring element to the mounting components. Stopinc is stuck with that decision. *See also Felix v. American Honda Motor Co.*, 562 F.3d 1167, 1184 (Fed. Cir. 2009) (amendment not tangential where although patentee could have amended the claim to recite only the non-tangential limitation to overcome the prior art, it instead chose to recite both, making both non-tangential); *Lucent*, 525 F.3d at 1218 ("It is not relevant to the determination of the scope of the surrender that the applicant did not need to amend the claims to require

performance of steps 1-4 during each pulse-forming iteration in order to overcome the prior art.").

In sum, I find that Stopinc is estopped from proceeding on its infringement claim under the doctrine of equivalents.

J.W. Hicks' Claim for an Exceptional Case

Although I ultimately disagree with Stopinc's position, I do not find this to be an exceptional case under 35 U.S.C. § 285 warranting an award of attorneys fees to J.W. Hicks. Stopinc presented thoughtful, reasonable arguments for why it should be allowed to proceed under the doctrine of equivalents. The case was close enough that I ordered oral argument from the parties. (DE 47.) And although I am confident that I have reached the correct result, the answer was not so immediately clear as to "stand[] out from others with respect to the substantive strength of a party's litigating position." *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1756 (2014). J.W. Hick's request for attorneys fees will therefore be denied.

J.W. Hicks' Motion to Strike Luchs' Affidavit

I am denying J.W. Hicks' motion to strike the Luchs' affidavit. (DE 39.) I don't think it presents the type of material that is so inappropriate as to warrant striking. Instead, J.W. Hicks' arguments go more to the weight as opposed to

the propriety of the affidavit. I will say, however, that I have not given the affidavit any weight because "only the public record of the patent prosecution, the prosecution history, can be a basis" for determining the reason for a claim amendment, and therefore courts "do not consider [a] declaration in determining the reason for the amendment to the claim." *Pioneer Magnetics, Inc. v. Micro Linear Corp.*, 330 F.3d 1352, 1356 (Fed. Cir. 2003). And in any event, the prosecution history is clear enough in this case that I don't need any further explanation of it. So although I don't think the affidavit rises to the level of striking, I don't ultimately find it helpful or persuasive, either.

Conclusion

For the above reasons, J.W. Hicks' motion for summary judgment is **GRANTED**, but it's request for attorneys fees is **DENIED**. (DE 35.) The Motion to Strike is also **DENIED**. (DE 39.) Therefore, judgment should be entered in favor of the defendant and against the plaintiff, terminating this matter. In light of this ruling, all other pending motions are **DENIED AS MOOT**.

SO ORDERED.

ENTERED: September 17, 2015

s/Philip P. Simon
CHIEF JUDGE
UNITED STATES DISTRICT COURT

ADDENDUM C

US006422435B1

(12) **United States Patent**
Toaldo

(10) **Patent No.: US 6,422,435 B1**
(45) **Date of Patent: Jul. 23, 2002**

(54) **SLIDE GATE FOR A CONTAINER CONTAINING MOLTEN METAL**

(75) Inventor: **Walter Toaldo**, Zug (CH)

(73) Assignee: **Stopinc Aktiengesellschaft**, Hunenberg (CH)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/744,563**

(22) PCT Filed: **Jul. 5, 1999**

(86) PCT No.: **PCT/CH99/00295**

§ 371 (c)(1),
(2), (4) Date: **Jan. 26, 2001**

(87) PCT Pub. No.: **WO00/06325**

PCT Pub. Date: **Feb. 10, 2000**

(30) **Foreign Application Priority Data**

Jul. 26, 1998 (CH) 1574/98

(51) **Int. Cl.**[7] **B22D 41/08**
(52) **U.S. Cl.** **222/600**; 222/597
(58) **Field of Search** 222/597, 600; 266/236

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Primary Examiner—Scott Kastler
(74) *Attorney, Agent, or Firm*—Wenderoth, Lind & Ponack, L.L.P.

(57) **ABSTRACT**

A sliding gate valve (20) for a container containing molten metal has a housing portion (14) securable to the container and a slider unit (30) which is longitudinally movable with respect to the container. Respective refractory valve plates (22, 23) are insertable into the housing portion, and may be pressed against one another by spring elements (26). The refractory valve plates serve to open and close the valve (20). The slider unit (30) is mounted so as to be longitudinally movable on the housing portion by a plurality of mounting components (40) aligned perpendicular to the slider unit 30. The mounting components (40) are each secured to the housing portion (14) and on an opposite end have a guide which slides on a guide track (36) constructed on the slider unit (30). The mounting components (40) have a respective peg-shaped connecting element (25), a spring element (26) acting on the connecting element in the axial direction, and the guide supported on the connecting element (25).

26 Claims, 3 Drawing Sheets

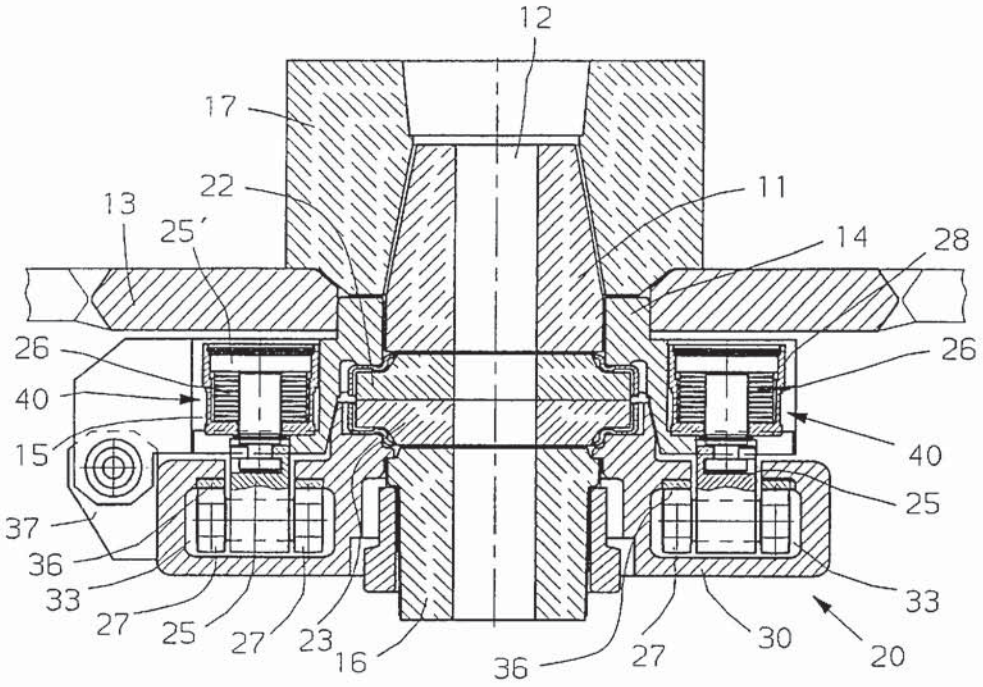

Fig. 1

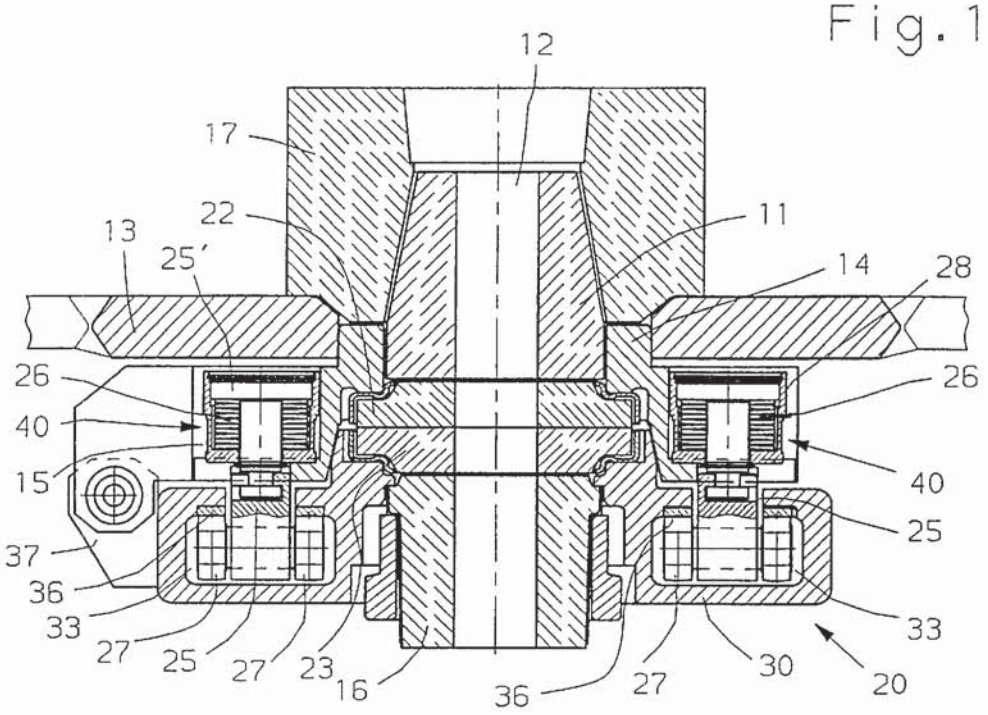
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Fig. 2

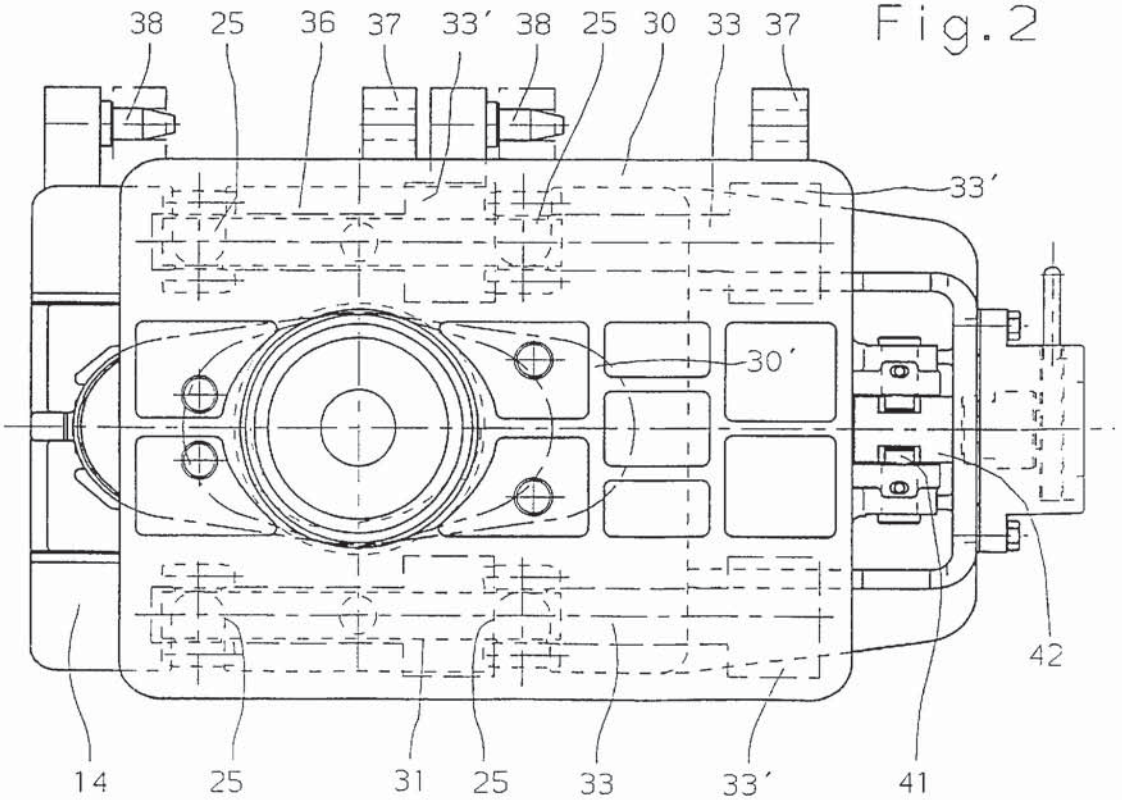
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Fig. 3

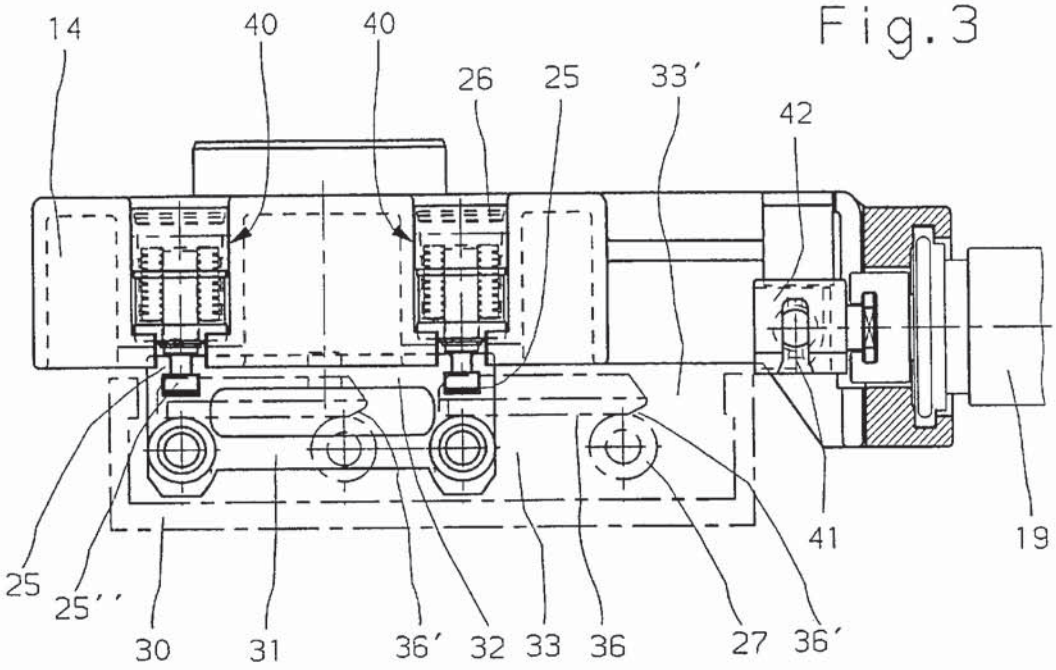
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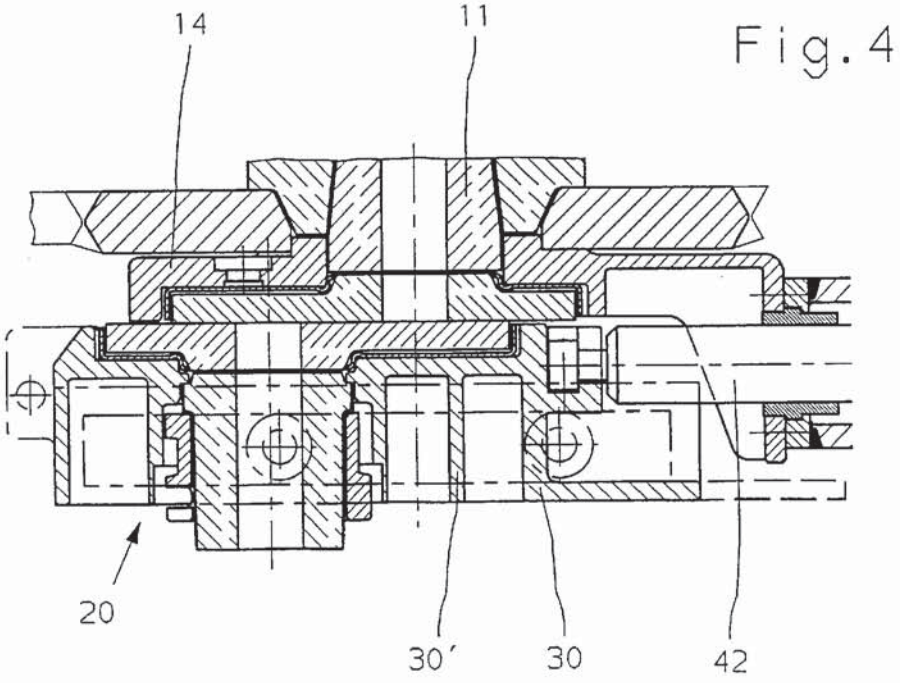
Fig. 4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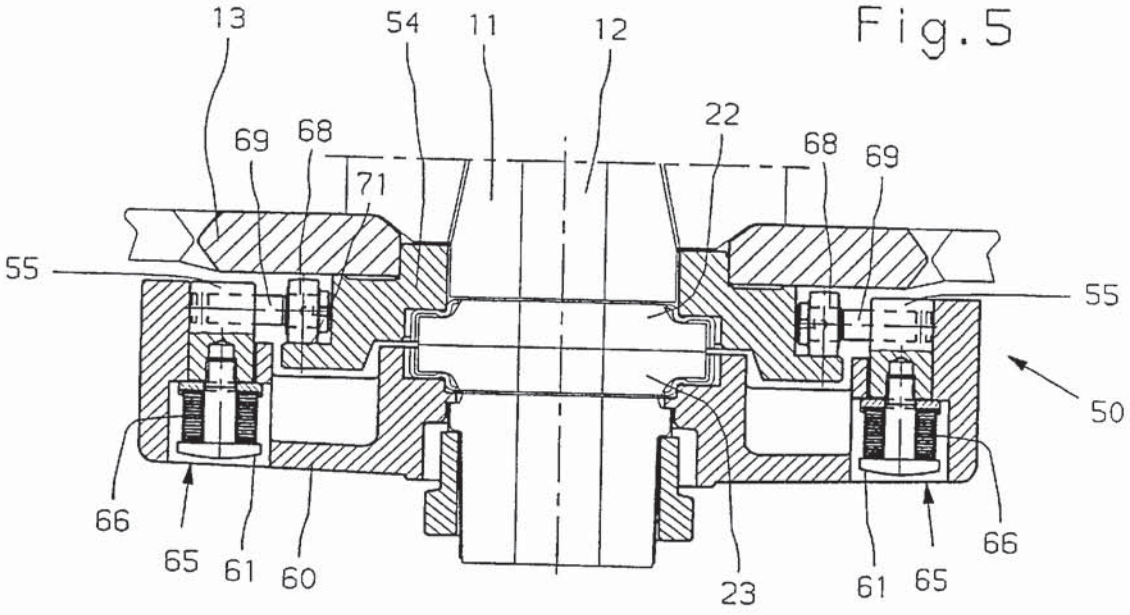

Fig.5

SLIDE GATE FOR A CONTAINER CONTAINING MOLTEN METAL

BACKGROUND OF THE INVENTION

The invention relates to a sliding gate valve and to an associated slider unit.

In a known sliding gate valve disclosed in publication EP-A-0277146, a longitudinally slidable slider unit is provided which accommodates a refractory valve plate and which is constructed as a sliding carriage and has rollers on both sides to guide the slider unit longitudinally. In the installed state, the sliding carriage is longitudinally guided with its rollers on guide tracks on a frame which, for its part, is vertically movably mounted on a housing upper portion by a plurality of spring elements. The housing upper portion for its part is releasably secured to the outlet of the vessel containing the molten metal.

The slider unit can be released from the frame and from the housing upper portion, particularly for plate replacement, by virtue of the fact that it is movable into a position situated outside an open and closed position in which the guide tracks are lowered through a height which relaxes the spring elements. The frame provided with the guide tracks is massive as a result of its construction similar to a housing, and it therefore has a relatively complex construction and is consequently expensive to manufacture.

SUMMARY OF THE INVENTION

Against this background, the object of the present invention is to provide a sliding gate valve of the type referred to above which is of simple construction and may thus be manufactured more economically.

The object is solved by providing a gate valve in accordance with the invention. Specifically, the sliding gate valve in accordance with the invention can be provided with smaller dimensions, particularly with regard to its length and breadth, by comparison with the known valve described above with the same stroke and the same plate sizes. Furthermore, it may be manufactured more economically by virtue of the fact that the housing frame can be omitted.

The advantages of the known sliding gate valve, such as, for example, the automatic release and clamping of the slider unit from and to the housing portion, are, however, also applicable to the sliding gate valve in accordance with the invention.

A further substantial advantage of the sliding gate valve in accordance with the invention resides in the fact that, after release from the housing portion, the slider unit is pivotally mounted with a simply constructed hinge. Thus, the slider unit can pivot about an axis of rotation extending parallel to the direction of movement on one or the other outer side of the housing portion. The slider unit can thus be swung in a horizontal and non-vertical direction in the many installation conditions of the ladles which prevail.

Brief Description of the Drawings

Exemplary embodiments and further advantages of the invention will be explained in more detail with reference to the drawings, in which:

FIG. **1** is a sectional view of a sliding gate valve in accordance with the invention;

FIG. **2** is a view of the bottom of the sliding gate valve of FIG. **1**;

FIG. **3** is a side view of the sliding gate valve of FIG. **1**, its slider unit being shown in chain-dotted lines;

FIG. **4** is a longitudinal sectional view of the sliding gate valve of FIG. **1**; and

FIG. **5** is a sectional view of a modified construction of the sliding gate valve.

DETAILED DESCRIPTION OF THE INVENTION

FIG. **1** shows a sliding gate valve **20** at the outlet of a container containing molten metal. This container is lined with refractory material, and only the outer steel shell **13** and a refractory nozzle brick **17** are shown. This container is, in particular, a ladle used in a continuous casting installation into which molten metal is introduced. A refractory sleeve **11** defines the outlet opening **12** of the container, and closely adjoins an upper, refractory valve plate **22** which is secured in a housing portion **14** of the sliding gate valve **20**. A refractory valve plate **23**, which is mounted in a longitudinally movable slider unit **30**, is pressed against the upper plate **22** by spring elements **26**. Adjoining the refractory valve plate **23** is a replaceable refractory outlet sleeve **16**. The valve plate **23** serves to open and close the valve **20**, for which purpose it is arranged to be slidable by a drive element together with the slider unit **30** holding it.

In accordance with the invention, the slider unit **30** is mounted on the housing portion **14** by a plurality of mounting components **40** extending perpendicular to the longitudinal axis of slider unit **30**, and the slider unit **30** can move in a longitudinal direction. The mounting components **40** are secured to the housing portion **14** and have a guide located at an end opposite the end connected to the housing portion **14**, and the guide slides on a respective guide track formed on the slider unit **30**.

Two mounting components **40** are conveniently provided on both sides of the valve plates **22**, **23** (four total), and are arranged symmetrically with respect to the outlet opening **12** of the container (see FIG. **2**). Each mounting components **40** has a peg-shaped connecting element **25** extending perpendicular to the longitudinal axis of the housing portion **14** and of the slider unit **30**. These connecting elements **25** are mounted in the housing portion **14** so as to be movable in their axial direction. Acting on the upper head plates **25'** of each connecting elements **25** is a respective spring element **26** constructed as a compression spring, and the spring is encapsulated in a sleeve **28**. Rotatably mounted on the lower end of each connecting element **25** in pairs are two respective slide rollers **27**, provided as the guides, on which the slider unit **30** is longitudinally guided. For this purpose, the slider unit has, on both sides of the valve plate **23** which is inserted into slider unit **30**, a respective T groove-shaped recess **33** extending in the direction of movement of the slider unit, and two respective guide tracks **36** are formed in this recess. This symmetrical arrangement of the pairs of slide rollers with respect to the line of action of the spring force produced by the spring element **26** produces an optimal force transfer from the mounting components **40** to the slider unit **30** and subsequently to the plates **22**, **23**, which are to be pressed against one another.

As shown in FIG. **2**, the T groove-shaped recesses **33**, shown laterally in the slider unit **30** as hidden detail, are each provided in the center and at the end with diverging (larger) openings **33'**. The openings **33'** are constructed and dimensioned with respect to one another so that the connecting elements **25** are slidable into them together with the slide rollers **27**, and so that the connecting elements **25** can be removed through them.

FIG. **3** shows the guide tracks **36** which each have a respective ramp **36'** at the end by the openings **33'**. The

height of each guide track **36** is such that the spring elements **26** are stressed to the operating pressure when the rollers **27** run onto them and are completely relaxed when released. In order to release the slider unit **30**, the slider unit **30** is moved into a position situated outside the open and the closed positions of the valve **20** in which the slider unit is relieved of the spring pressure until its openings **33'** are situated above the slide rollers **27** so that rollers **27** can pass through openings **33'** and the slider unit **30** can be released. Hinge members **37** disposed laterally on the slider unit **30** move with their bores onto corresponding hinge pegs **38** on the housing portion **14**, whereby the slider unit **30** can be swung outwardly. The slider unit **30** is coupled by means of claws **41** or the like to a push rod **42** of a drive element **19** constructed in the form of a hydraulic cylinder. As a further advantage, this claw coupling enables the slider unit **30** to be automatically released from the push rod **42**.

The hinge **37, 38** could also be arranged on the other side of the slider unit **30** or on the shorter side remote from the drive. Accordingly, the slider unit can be swung out on one of the three sides, depending on the positioning of the valve on the ladle outlet. Since the direction of movement of the slider unit at the installation location extends in the vertical direction in many applications, the slider unit can be swung horizontally in the illustrated arrangement, which is associated with a small application of force.

The two mounting components **40** located on one side of the valve plate **22, 23** are reinforced by at least one connecting rod **31, 32** for stabilization against the bending forces which occur and they thus form a carriage shape. The two connecting rods **31, 32** provided in the present case are situated centrally in the recess **33**. They have a breadth which corresponds approximately to that of the connecting elements **25** so that the connecting elements can be introduced into or removed from the recess **33**. The connecting elements **25** are also divided into two sections and connected together by a tongue and groove connection **25"** or the like. These connecting rods **31, 32** could also in principle be omitted. Sliding blocks could also be used instead of the slide rollers **27**.

As a further advantage, these mounting components **40** can be removed laterally from the housing portion **14** as a unit, within the scope of the invention, when the slider unit **30** is swung out. For this purpose, appropriate openings **15** are present in the housing portion **14** through which the mounting components can be fittingly slid. The spring elements **26** can be rapidly removed through the openings **15** for the frequently necessary tests of their biasing force, and then reinserted.

As shown in FIG. **4**, transverse and longitudinal ribs **30'** in the central part of the slider unit **30** serve to reinforce the slider unit **30** against distortion and torsional forces. The sliding gate valve **20** is otherwise illustrated in the closed position.

FIG. **5** shows a modified sliding gate valve **50** which is basically constructed in a manner similar to that of FIG. **1**. Only the differences will therefore be discussed below in more detail. This sliding gate valve **50** again has a housing portion **54** which is secured to the container and in which a stationary, refractory valve plate **22** is contained. A significant difference from the valve **20** is that the mounting components **65** are not secured in the housing portion **54**, but rather to the slider unit **60**. The axially movable connecting elements **55** are mounted together with the spring elements **66**, constituted by a plurality of plate springs, in a recess **61** in the slider unit **60**. Associated with the connecting elements **55**, of which there are advantageously again four, as a guide is a respective slide roller **68**, which is rotatable on a horizontal shaft **69** and which slides on a guide track **71** on the housing portion **54** constructed in a manner analogous to that in FIG. **3**. The two guide tracks **71** provided laterally on the housing portion extend in the direction of movement of the slider unit and are provided with ramps, which are not shown in detail and serve to load and unload the spring elements **66**.

In the sliding gate valves **20, 50** in accordance with the invention discussed above, both the housing portion **14, 54** and the slider unit **30, 60** have a construction similar to a plate, and in the operational condition are arranged parallel and at a small distance from one another. These sliding gate valves **20, 50** can thus be maintained dimensionally as small as possible as a result of this construction in accordance with the invention, as regards the constructional height and also its length and breadth. The result of this is a more economical manufacture of the valves. This valve can be produced both in smaller dimensions for smaller ladles of up to 100 tons holding capacity, and also in larger dimensions for 300 ton ladles.

In principle, the necessary spring packet for urging the refractory plates against one another could be provided in a manner known per se between the sliding plate and the slider unit. The mounting components could accordingly be arranged non-movably in the housing portion or in the slider unit.

What is claimed is:

1. A sliding gate valve to be mounted to a container for containing molten metal, comprising:

a housing portion to be secured to the container;

a slider unit mounted to said housing portion and having guide tracks;

a first refractory valve plate and a second refractory valve plate inserted between said housing portion and said slider unit and operable to open and close the sliding gate valve; and

a plurality of mounting components aligned perpendicular to said slider unit so as to mount said slider unit to said housing portion such that said slider unit is slidable with respect to said housing portion, each of said mounting components having:

a first end secured to said housing portion;

a spring element for pressing said first refractory valve plate and said second refractory valve plate against each other;

a second end opposite said first end; and

a guide element on said second end for riding on a respective one of said guide tracks of said slider unit, said mounting components being arranged such that two guide elements are positioned on each of two opposite sides of said refractory valve plates;

wherein said slider unit is operable to be moved so as to position said guide elements at a location whereat a height of said guide tracks is lower than a height of a remaining portion of said guide tracks so as to relax said spring elements to allow release of said slider unit from said housing portion.

2. The sliding gate valve of claim **1**, wherein said plurality of mounting components comprise two mounting components positioned on each of said two opposite sides of said refractory valve plates, each of said mounting components having an elongated connecting element extending perpendicular to a longitudinal axis of said housing portion and said sliding unit, said guide element being arranged on an end of said connecting element.

3. The sliding gate valve of claim **2**, wherein each spring element comprises a compression spring element, each connecting element being mounted in said housing portion so as to be operable to move in an axial direction of said connecting element and so as to be biased by said spring elements so as to press said first refractory valve plate and said second refractory valve plate against each other.

4. The sliding gate valve of claim **2**, wherein said two mounting components positioned on each of said two opposite sides of said refractory valve plates are arranged in said housing portion so as to be symmetrical with respect to an outlet opening of the container.

5. The sliding gate valve of claim **1**, wherein said plurality of mounting components comprise two mounting components positioned on one side of said refractory valve plates and being connected together by at least one connecting rod.

6. The sliding gate valve of claim **1**, wherein said plurality of mounting components are removably arranged in said housing portion and adapted to be removed from said housing portion as a unit including said spring element.

7. The sliding gate valve of claim **1**, wherein said slider unit includes a guide track on each of said two opposite sides of said refractory valve plates, said guide element of each mounting component comprising sliding rollers for riding on a respective one of said guide tracks.

8. The sliding gate valve of claim **1**, wherein said slider unit is operable to be mounted by a hinge about a pivotal axis on a side of said housing portion when said slider unit is released from said housing portion so as to be positioned in a swung-out position.

9. The sliding gate valve of claim **8**, wherein said slider unit and said housing portion are arranged such that when said slider unit is moved so as to be released from said housing unit, a hinge member of said slider unit engages a hinge peg on said housing portion so as to form said hinge and so as to pivotally connect said slider unit to said housing portion.

10. The sliding gate valve of claim **8**, further comprising a drive element having a push rod, wherein said slider unit is coupled to said push rod by a coupling adapted to automatically uncouple when said slider unit is moved to the swung-out position.

11. The sliding gate valve of claim **1**, wherein said guide element of each mounting component includes a shaft and a rotatable sliding roller mounted on said shaft for riding on a respective one of said guide tracks.

12. The sliding gate valve of claim **1**, wherein said housing portion and said slider unit are arranged parallel and adjacent to each other when the sliding gate valve is in an operational state.

13. The sliding gate valve of claim **1**, wherein each side of said slider unit has a T-shaped groove extending along a direction of movement of said slider unit, said guide tracks of said slider unit being formed in said T-shaped groove so as to guide said guide element of each of said mounting components, said guide element comprising two sliding rollers arranged symmetrically with respect to a connecting element of said mounting component.

14. The sliding gate valve of claim **13**, wherein each T-shaped groove has a diverging opening located at a middle portion and an end portion of said T-shaped groove with respect to a longitudinal axis of said T-shaped groove, each diverging opening being adapted so as to allow said guide element and said connecting element of said mounting component to pass therethrough.

15. A sliding gate valve to be mounted to a container for containing molten metal, comprising:

a housing portion to be secured to the container and having guide tracks;

a slider unit mounted to said housing portion;

a first refractory valve plate and a second refractory valve plate inserted between said housing portion and said slider unit and operable to open and close the sliding gate valve; and

a plurality of mounting components aligned perpendicular to said slider unit so as to mount said slider unit to said housing portion such that said slider unit is slidable with respect to said housing portion, each of said mounting components having:

a first end secured to said slider unit;

spring elements for pressing said first refractory valve plate and said second refractory valve plate against each other;

a second end opposite said first end; and

a guide element on said second end for riding on a respective one of said guide tracks of said housing portion, said mounting components being arranged such that two guide elements are positioned on each of two opposite sides of said refractory valve plates;

wherein said slider unit is operable to be moved so as to position said guide elements at a location whereat a height of said guide tracks is lower than a height of a remaining portion of said guide tracks so as to relax said spring elements to allow release of said slider unit.

16. The sliding gate valve of claim **15**, wherein said plurality of mounting components comprise two mounting components positioned on each of said two opposite sides of said refractory valve plates, each of said mounting components having an elongated connecting element extending perpendicular to a longitudinal axis of said housing portion and said sliding unit, said guide element being arranged on an end of said connecting element.

17. The sliding gate valve of claim **16**, wherein each spring element comprises a compression spring element, each connecting element being mounted in said sliding unit so as to be operable to move in an axial direction of said connecting element and so as to be biased by said spring elements so as to press said first refractory valve plate and said second refractory valve plate against each other.

18. The sliding gate valve of claim **16**, wherein said two mounting components positioned on each of said two opposite sides of said refractory valve plates are arranged in said slider unit so as to be symmetrical with respect to an outlet opening of the container.

19. The sliding gate valve of claim **15**, wherein said plurality of mounting components comprise two mounting components positioned on one side of said refractory valve plates and being connected together by at least one connecting rod.

20. The sliding gate valve of claim **15**, wherein said plurality of mounting components are removably arranged in said slider unit and adapted to be removed from said slider unit as a unit including said spring element.

21. The sliding gate valve of claim **15**, wherein said housing portion includes a guide track on each of said two opposite sides of said refractory valve plates, said guide element of each mounting component comprising sliding rollers for riding on a respective one of said guide tracks.

22. The sliding gate valve of claim **15**, wherein said slider unit is operable to be mounted by a hinge about a pivotal axis on a side of said housing portion when said slider unit is released from said housing portion so as to be positioned in a swung-out position.

23. The sliding gate valve of claim **22**, wherein said slider unit and said housing portion are arranged such that when

said slider unit is moved so as to be released from said housing unit, a hinge member of said slider unit engages a hinge peg on said housing portion so as to form said hinge and so as to pivotally connect said slider unit to said housing portion.

24. The sliding gate valve of claim **22**, further comprising a drive element having a push rod, wherein said slider unit is coupled to said push rod by a coupling adapted to automatically uncouple when said slider unit is moved to the swung-out position.

25. The sliding gate valve of claim **15**, wherein said guide element of each mounting component includes a shaft and a rotatable sliding roller mounted on said shaft for rolling on a respective one of said guide tracks.

26. The sliding gate valve of claim **15**, wherein said housing portion and said slider unit are arranged parallel and adjacent to each other when the sliding gate valve is in an operational state.

* * * * *

CERTIFICATE OF SERVICE & CM/ECF FILING

16-1102

I hereby certify that I electronically filed the **Brief for Plaintiff-Appellant** using the Court's Case Management/Electronic Case Filing system, which will send a "Notice of Docket Activity" to the below-listed counsel. One (1) copy of the brief was sent via Federal Express Next Business Day Delivery to:

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Upon acceptance by the Court of the e-filed document, the required paper copies will be timely filed in the United States Court of Appeals for the Federal Circuit.

on this 21st day of December 2015.

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CERTIFICATE OF COMPLIANCE

This brief complies with the type-volume limitation of Rule 32(a)(7)(B) of the Federal Rules of Appellate Procedure because it contains 6,247 words, excluding the parts of the brief exempted by Rule 32(a)(7)(B)(iii).

This brief complies with the typeface requirements of Rule 32(a)(5) and the type style requirements of Rule 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word in Times New Roman 14-point font.

New York, NY
Dated: December 21, 2015

Respectfully submitted,

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